

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method comprising:
identifying with a computer, live data in a previous stage required by a subsequent stage each of ~~at least two stages of~~ a partitioned program stored in a machine-accessible medium, wherein at least one of said stages comprises more than one thread, and ~~which wherein said live data comprises data is defined in a said previous stage used in said subsequent stage;~~ and
providing for transmission of said required live data between consecutive stages of said partitioned program.
2. (Currently amended) The method according to Claim 1, wherein said providing for transmission comprises:
putting each piece of required live data into a pipe following a point immediately following its definition in a said previous stage in which it is defined; and
getting from said pipe each piece of live data required by a said subsequent stage at a point in said the subsequent stage that corresponds immediately precedes the use of to the point at which the piece of required live data ~~was~~ put into the pipe.
3. (Currently amended) The method according to Claim 1, wherein said providing for transmission comprises:
placing into a pipe, at an end of ~~each said previous stage,~~ said live data required for ~~said a~~ subsequent stage of said program; and
getting from said pipe, at a beginning of said each subsequent stage, said live data required for that stage and defined in a said previous stage.
4. (Currently amended) The method according to Claim 1, wherein said identifying live data required comprises:
determining required live data in said previous stage based on conditional statements in said subsequent stage of said program.
5. (Currently amended) The method according to Claim 1, wherein said identifying live data required comprises:
rendering said program such that definitions of live data in one or more stages in which they are initially defined and their uses in subsequent stages are made explicit by introducing an alternative representation of each piece of live data following its definition and substituting said alternative

representation for each subsequent occurrence of said piece of live data in said subsequent stages of said program.

6. (Currently amended) The method according to Claim 5, wherein said identifying live data required further comprises:
making one or more pairwise determinations as to whether pieces of live data interfere.
7. (Original) The method according to Claim 6, wherein said making one or more pairwise determinations comprises:
determining that two pieces of live data interfere if a path taken through the program, considering all stages, from a use of a first piece of live data leads to a definition of a second piece of live data.
8. (Currently amended) The method according to Claim 6, wherein said identifying live data required further comprises:
forming an interference graph; and
applying a graph coloring algorithm to said interference graph to obtain a colored interference graph.
9. (Currently amended) The method according to Claim 8, wherein said identifying live data required further comprises:
inserting, for each piece of live data in said colored interference graph having a particular color, a definition of a new piece of data, said definition being inserted immediately following an initial definition of the piece of live data; and
substituting the new piece of data for each occurrence in the program of said piece of live data subsequent to said definition of the new piece of data.
10. (Currently amended) A machine-accessible medium containing instructions that, when executed by a computing platform, cause said computing platform to perform a method comprising: identifying with a computer, live data required by a subsequent stage each of at least two stages of a partitioned program stored in a machine-accessible medium, wherein at least one of said stages comprises more than one thread, and ~~which wherein said live data comprises data is~~ defined in a previous stage used in a subsequent stage; and
providing for transmission of said required live data between consecutive stages of said partitioned program.
11. (Currently amended) The machine-accessible medium according to Claim 10, wherein said providing for transmission comprises:

putting each piece of required live data into a pipe following a point immediately following its definition in a said previous stage in which it is defined; and
getting from said pipe each piece of live data required by a said subsequent stage at a point in the subsequent stage that corresponds immediately precedes the use of to the point at which the piece of required live data was put into the pipe.

12. (Currently amended) The machine-accessible medium according to Claim 10, wherein said providing for transmission comprises:
placing into a pipe, at an end of each said previous stage, said live data required for a said subsequent stage of said program; and
getting from said pipe, at a beginning of said each subsequent stage, said live data required for that stage and defined in a said previous stage.
13. (Currently amended) The machine-accessible medium according to Claim 10, wherein said identifying live data required comprises:
determining required live data in said previous stage based on conditional statements in said subsequent stage of said program.
14. (Currently amended) The machine-accessible medium according to Claim 10, wherein said identifying live data required comprises:
rendering said program such that definitions of live data in one or more stages in which they are initially defined and their uses in subsequent stages are made explicit by introducing an alternative representation of each piece of live data following its definition and substituting said alternative representation for each subsequent occurrence of said piece of live data in said subsequent stages of said program.
15. (Currently amended) The machine-accessible medium according to Claim 14, wherein said identifying live data required further comprises:
making one or more pairwise determinations as to whether pieces of live data interfere.
16. (Original) The machine-accessible medium according to Claim 15, wherein said making one or more pairwise determinations comprises:
determining that two pieces of live data interfere if a path taken through the program, considering all stages, from a use of a first piece of live data leads to a definition of a second piece of live data.

17. (Currently amended) The machine-accessible medium according to Claim 15, wherein said identifying live data required further comprises:
forming an interference graph; and
applying a graph coloring algorithm to said interference graph to obtain a colored interference graph.
18. (Currently amended) The machine-accessible medium according to Claim 17, wherein said identifying live data required further comprises:
inserting, for each piece of live data in said colored interference graph having a particular color, a definition of a new piece of data, said definition being inserted immediately following an initial definition of the piece of live data; and
substituting the new piece of data for each occurrence in the program of said piece of live data subsequent to said definition of the new piece of data.
19. (Currently amended) An apparatus comprising:
at least two processing platforms, each of said processing platforms comprising more than one processor, each processing platform adapted to execute a stage of a partitioned program, and different ones of said processors of said processing platform adapted to execute a different parallel thread of said stage of said partitioned program; and
at least one data transmission path linking at least two of said processing platforms, wherein at least one piece of identified live data required by at least one subsequent stage of said partitioned program is transmitted through at least one said data transmission path, wherein live data comprises data defined in a previous stage used in said subsequent stage.
20. (Currently amended) The apparatus according to Claim 19, further comprising:
a processor adapted to determine which pieces of live data are required to be transmitted through at least one said data transmission path.
21. (Currently amended) The apparatus according to Claim 20, wherein said processor adapted to determine is adapted to determine which pieces of data are required to be transmitted through at least one said data transmission path by analyzing whether pieces of live data interfere with each other.
22. (Original) The apparatus according to Claim 19, further comprising:
at least one memory coupled to at least one of said processing platforms.